ORDER NO. MD8909052C2

Service Manual

Radio Cassette

RC-X250

Stereo Clock Radio Cassette Recorder

Color

(K) ..... Black Type

Area

Country Code	Area	Color
(E)	Continental Europe	(K)
(EG)	F.R. Germany/Italy	

TN21 MECHANISM SERIES

General:

Power Requirement:	AC; 220 V, 50 Hz Battery; 9 V (006P) for Battery Back-up
Power Consumption:	13 W (AC only)
Power Output:	2 W (1 W×2)...RMS (max.)
Speaker:	3" (8 cm)×2 PM Dynamic Speaker (8Ω)
Jack:	HEADPHONES; 16~32Ω, Ø3.5 (Mini)
Dimensions:	334×109×145 mm
Weight:	1.82 kg without battery

Radio Section:

Radio Frequency Range:	FM; 87.5~108 MHz AM; 520~1610 kHz
Intermediate Frequency:	FM; 10.7 MHz AM; 459 kHz
Sensitivity:	FM; 5.6 µV/50 mW output AM; 200 µV/m/50 mW output

Tape Deck Section

Frequency Range:	60~12,000 Hz (with normal tape)
Recording System:	AC bias, Magnet erase
Tape Speed:	4.8 cm/s
Track System:	4-track 2-channel stereo recording and playback

Weights and dimensions shown are approximate.
Design and specifications are subject to change without notice.

Panasonic

Matsushita Electric Industrial Co., Ltd.
Central P.O. Box 288, Osaka 530-91, Japan

ORDER NO. MD8909052C2

Service Manual

Radio Cassette

RC-X250

Stereo Clock Radio Cassette Recorder

Color

(K) ..... Black Type

Area

Country Code	Area	Color
(E)	Continental Europe	(K)
(EG)	F.R. Germany/Italy	

TN21 MECHANISM SERIES

General:

Power Requirement:	AC; 220 V, 50 Hz Battery; 9 V (006P) for Battery Back-up
Power Consumption:	13 W (AC only)
Power Output:	2 W (1 W×2)...RMS (max.)
Speaker:	3" (8 cm)×2 PM Dynamic Speaker (8Ω)
Jack:	HEADPHONES; 16~32Ω, Ø3.5 (Mini)
Dimensions:	334×109×145 mm
Weight:	1.82 kg without battery

Radio Section:

Radio Frequency Range:	FM; 87.5~108 MHz AM; 520~1610 kHz
Intermediate Frequency:	FM; 10.7 MHz AM; 459 kHz
Sensitivity:	FM; 5.6 µV/50 mW output AM; 200 µV/m/50 mW output

Tape Deck Section

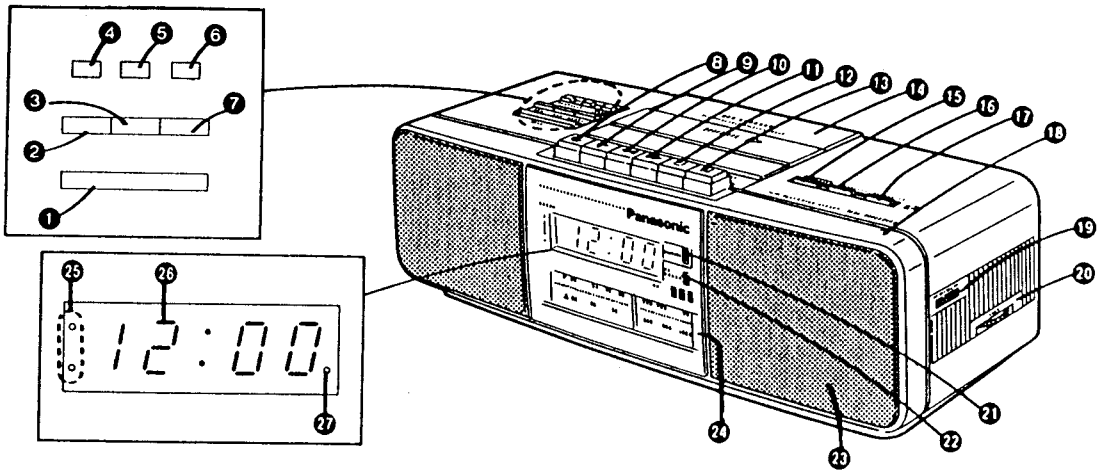
Frequency Range:	60~12,000 Hz (with normal tape)
Recording System:	AC bias, Magnet erase
Tape Speed:	4.8 cm/s
Track System:	4-track 2-channel stereo recording and playback

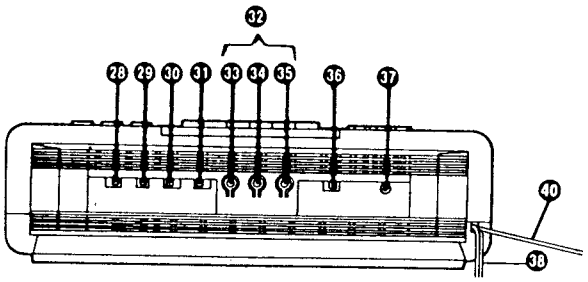
Weights and dimensions shown are approximate.
Design and specifications are subject to change without notice.

Panasonic

Matsushita Electric Industrial Co., Ltd.
Central P.O. Box 288, Osaka 530-91, Japan

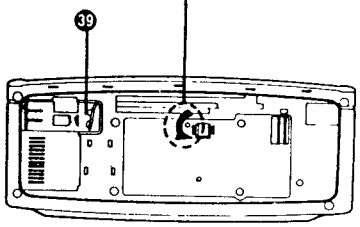
LOCATION OF CONTROLS





[Back]

When the tape is caught in the pinch roller, etc. release the tape by turning the pulley on the motor with the screwdriver in the direction of the arrow.



[Bottom]

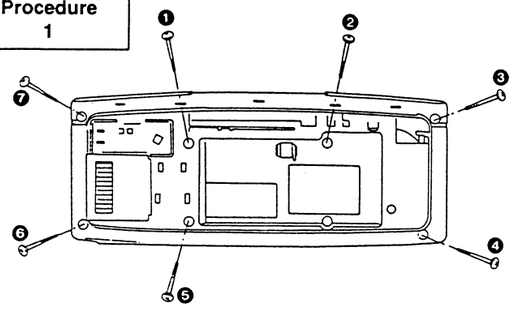
❶ Doze Button (DOZE)
❷ Sleep Button (SLEEP)
❸ Off Button (OFF)
❹ Alarm 1 Display/Adjust Button (ALARM 1)
❺ Alarm 2 Display/Adjust Button (ALARM 2)
❻ Tape Alarm Button (TAPE ALARM)
❼ Radio On Button (RADIO ON)
❽ Record Button (● RECORD)
❾ Playback Button (▶ PLAY)
❿ Rewind Button (◀◀ REW)
⓫ Fast Forward Button (▶▶ FF)
⓬ Stop/Eject Button (⏏ STOP/EJECT)
⓭ Pause Button (❚❚ PAUSE)
⓮ Cassette Compartment
⓯ Message Button (MESSAGE)
⓰ Ambience Button (AMBIENCE)
⓱ Low Boost Button (LOW BOOST)
⓲ Built-In Microphone (MIC)
⓳ Volume Control (VOLUME)
⓴ Tuning Control (TUNING)

㉑ Message Indicator (MESSAGE)
㉒ FM Stereo Indicator (FM STEREO)
㉓ Speakers (8 cm, 8Ω)
㉔ Radio Dial Display
㉕ Alarm 1 and 2 Indicators (ALARM 1–2)
㉖ Clock Display
㉗ PM Indicator (PM)
㉘ Band Selector (BAND)
㉙ Beat Proof Selector (BEAT PROOF)
㉚ Alarm 2 Selector (ALARM 2)
㉛ Alarm 1 Selector (ALARM 1)
㉜ Time Set Buttons (TIME SET)
㉝ Reverse Button (REV)
㉞ Fast Button (FAST)
㉟ Forward Button (FWD)
㊱ Brightness/Time Set Selector (BRIGHTNESS)
㊲ Headphones Jack (∩) [16~32Ω, ∅3.5 (Mini)]
㊳ AC Power Cord
㊴ Back-up Battery Compartment
㊵ FM Antenna

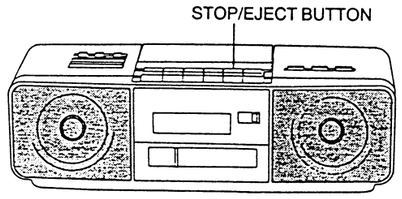
DISASSEMBLY INSTRUCTIONS

Ref. No. 1 — Removal of the Upper Cabinet

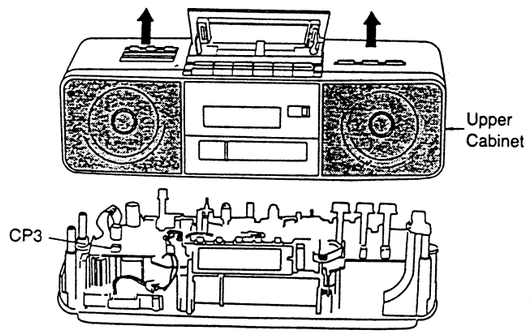
Procedure 1



1. Remove 7 screws (❶~❼).



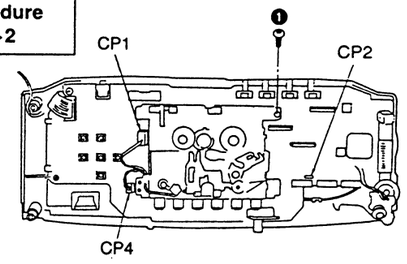
2. Press the stop/eject button.



3. Remove the upper cabinet in the direction of arrow.
4. Remove the connector (CP3).

Ref. No. 2 — Removal of the Mechanism

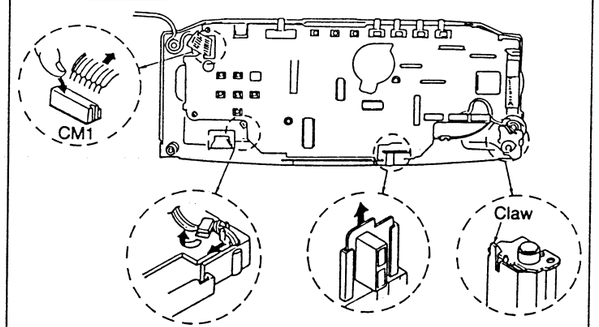
Procedure 1→2

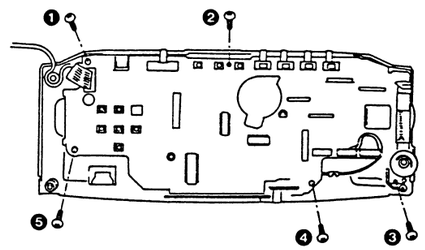


1. Remove the screw (❶).
2. Remove 2 connector (CP1, CP2).

Ref. No. 3 — Removal of the Main P.C.B.

Procedure 1→2→3

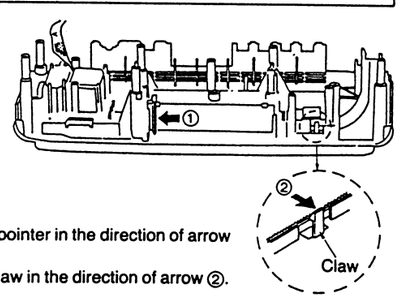




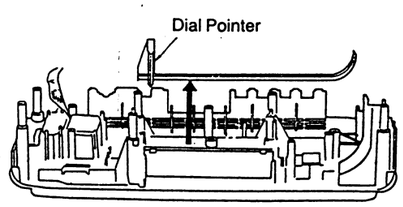
●Remove 5 screws (❶~❺).

Ref. No. 4 — Removal of the Dial Pointer

Procedure 1→2→3→4



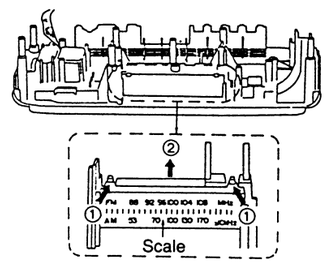
1. Move the dial pointer in the direction of arrow ①.
2. Remove the claw in the direction of arrow ②.



3. Remove the dial pointer in the direction of arrow ③.

Ref. No. 5 — Removal of the Scale

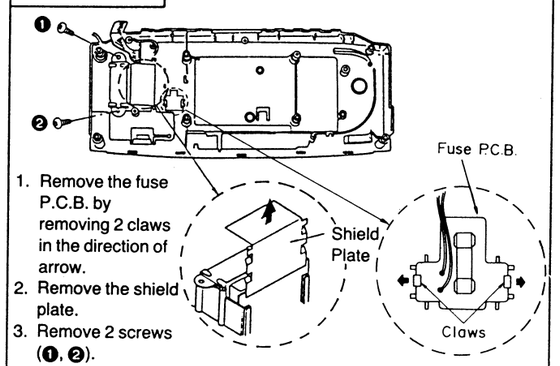
Procedure 1→2→3→4→5



1. Remove 2 claws in the direction of arrow ①.
2. Remove the scale in the direction of arrow ②.

Ref. No. 6 — Removal of the Power Transformer

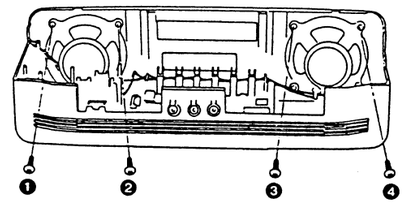
Procedure 1→2→3→6



1. Remove the fuse P.C.B. by removing 2 claws in the direction of arrow.
2. Remove the shield plate.
3. Remove 2 screws (❶, ❷).

Ref. No. 7 — Removal of the Speaker

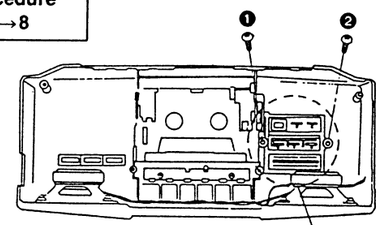
Procedure 1→7

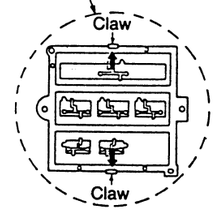


●Remove 4 screws. (❶~❹).

Ref. No. 8 — Removal of the Switch Knob

Procedure 1→8

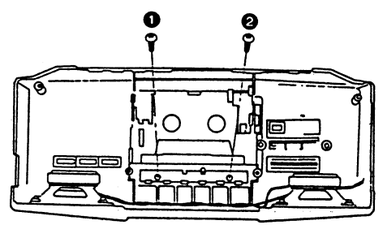




1. Remove 2 screws (❶, ❷).
2. Push 2 claws.

Ref. No. 9 — Removal of the Mechanism Button

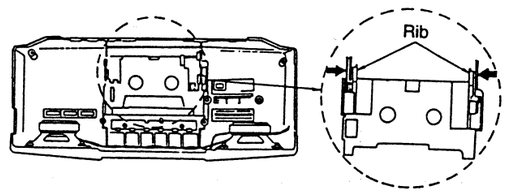
Procedure 1→9



●Remove 2 screws (❶, ❷).

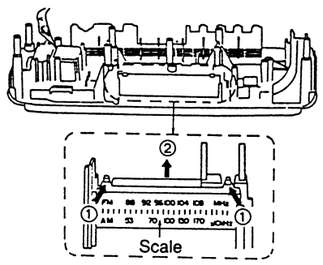
Ref. No. 10 — Removal of the Cassette Compartment

Procedure 1→10



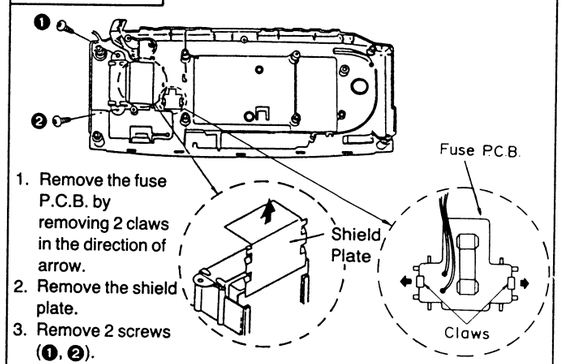
●Remove 2 ribs in the direction of arrows.

Ref. No. 5	Removal of the Scale
Procedure 1→2→3→4→5	



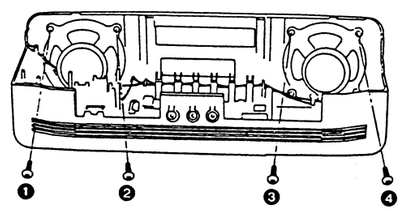
1. Remove 2 claws in the direction of arrow ①.
2. Remove the scale in the direction of arrow ②.

Ref. No. 6	Removal of the Power Transformer
Procedure 1→2→3→6	



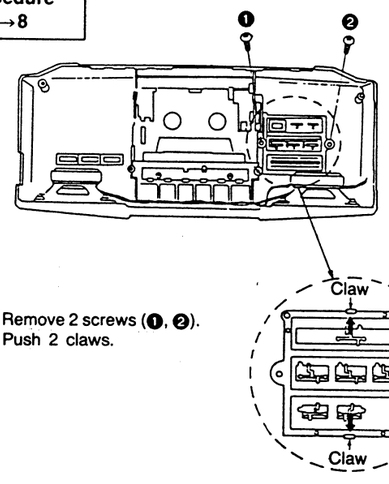
1. Remove the fuse P.C.B. by removing 2 claws in the direction of arrow.
2. Remove the shield plate.
3. Remove 2 screws (❶, ❷).

Ref. No. 7	Removal of the Speaker
Procedure 1→7	



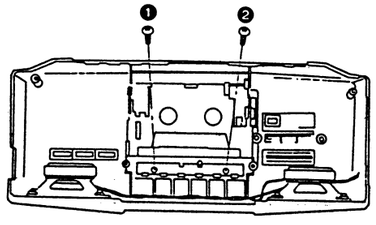
•Remove 4 screws. (❶~❹).

Ref. No. 8	Removal of the Switch Knob
Procedure 1→8	



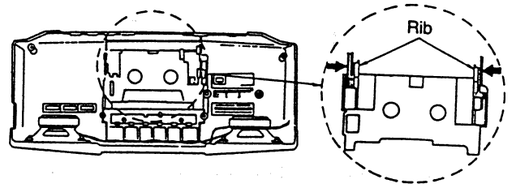
1. Remove 2 screws (❶, ❷).
2. Push 2 claws.

Ref. No. 9	Removal of the Mechanism Button
Procedure 1→9	



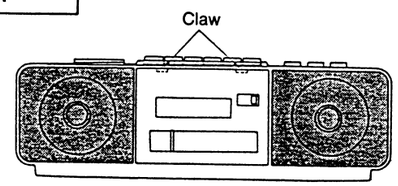
•Remove 2 screws (❶, ❷).

Ref. No. 10	Removal of the Cassette Compartment
Procedure 1→10	

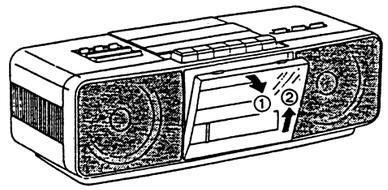


•Remove 2 ribs in the direction of arrows.

Ref. No. 11	Removal of the Clear Panel
Procedure 11	



1. Push 2 claws.



2. Push the clear panel in the direction of arrows ① and ②.

■ TO SET THE DIAL POINTER

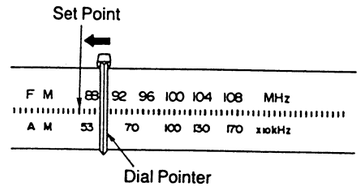


Fig. 1

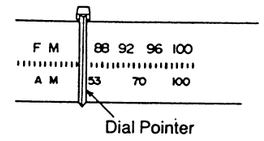


Fig. 2

1. Line up the dial pointer in the scale with the set point graduation as shown in Fig. 1 and Fig. 2.

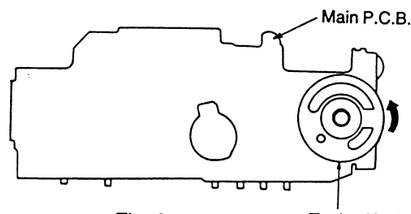


Fig. 3

2. Fully turn the tuning knob in the direction of arrow.

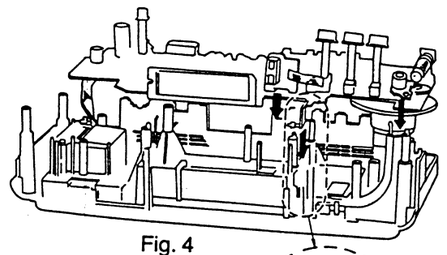
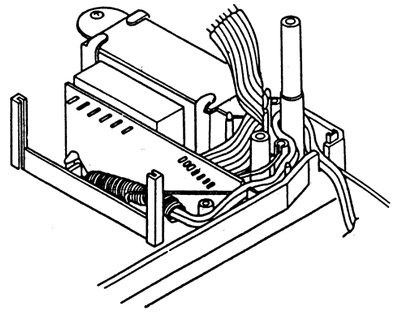


Fig. 4

3. Attach the main P.C.B.

■ WIRING ARRANGEMENT



SCHEMATIC DIAGRAM (Parts list on page 14~16)

A MAIN CIRCUIT

D306 (SL204230T) LED DISPLAY

IC301 LM8562 CLOCK LSI

IC101 BA3312N P.B./REC AMP

IC1 AN7205 FM FRONT-END

IC102,103 BU4066B SWITCHING (TAPE/RADIO SELECT)

IC201 RVIBA6433 AMBIENCE

IC202 RVIBA5406 POWER AMP

Q301 2SA564RTA SWITCHING

Q101 2SC1684RTA SWITCHING (BEAT PROOF)

Q102 2SC1684RTA BIAS OSC

Q202,203 2SC1684STA LOW BOOST AMP

Q201 2SC1684RTA POWER SUPPLY

Q103 2SC2001IKITA MOTOR DRIVE

Q401 2SC2001IKITA REGULATOR

Q402 2SA564RTA POWER SUPPLY

Q403 2SC1684RTA SWITCHING

Q205 2SA952LITA POWER SUPPLY

R/P HEAD R ch L ch

ERASE HEAD

B POWER SUPPLY CIRCUIT

C FUSE CIRCUIT

AC220V (50Hz)

F1 250V T800mA

FM ANTENNA (LEAD WIRE)

D DIAL LIGHT CIRCUIT

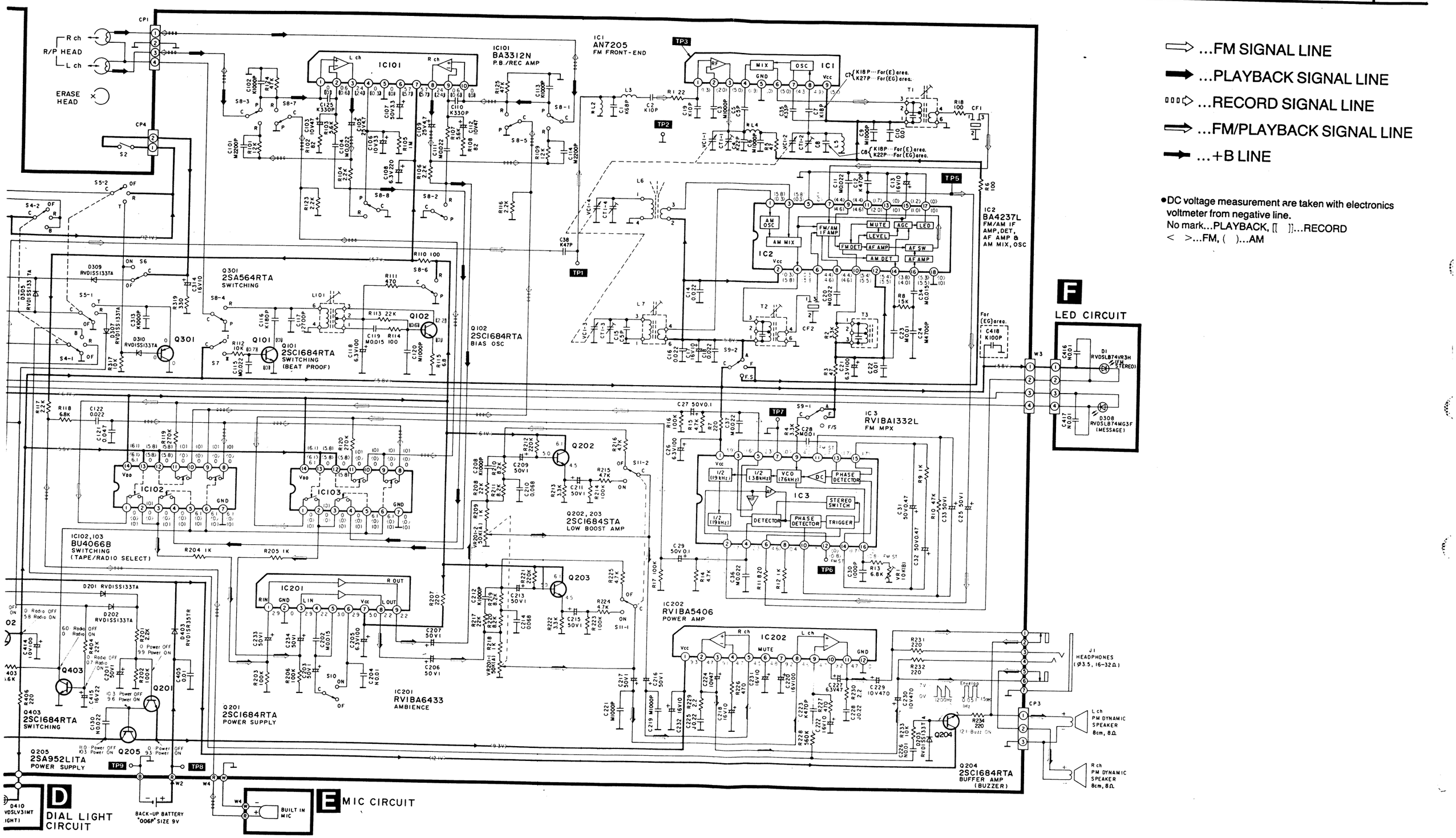
D410 RVDSLV31MT (DIAL LIGHT)

MOTOR

BACK-UP BATTERY "006P" SIZE 9V

E MIC CIRCUIT

BUILT IN MIC



F LED CIRCUIT

D CIRCUIT

E MIC CIRCUIT

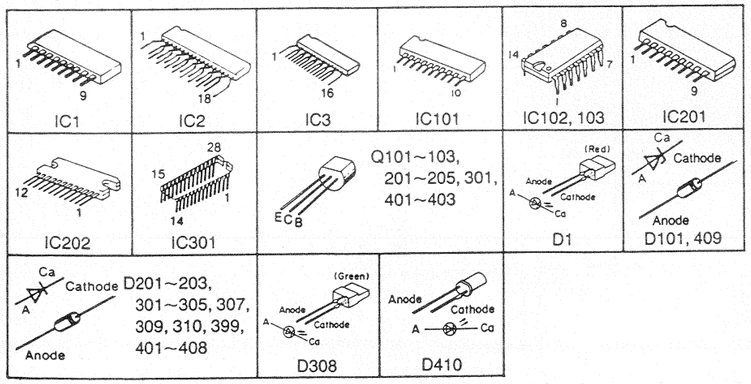
- DC voltage measurement are taken with electronics voltmeter from negative line.
  No mark...PLAYBACK, [ ]...RECORD
  < >...FM, ( )...AM

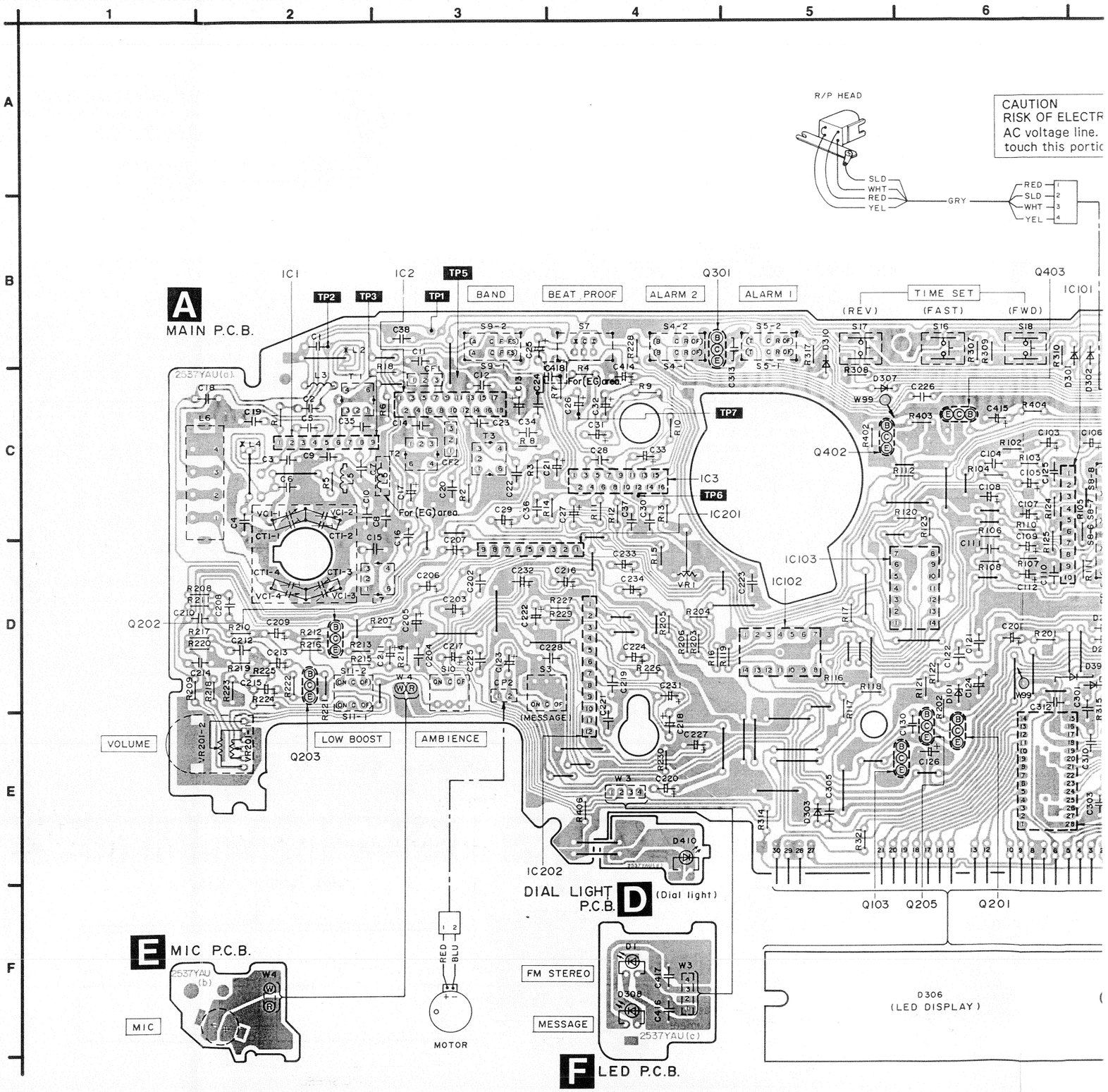
CIRCUIT BOARDS AND WIRING CONNECTION DIAGRAM (Parts list on page 14~16)

Notes:

1. S1-1~S1-4: Brightness/Time Set select switch in "HIGH" position. (H...HIGH, L...LOW, T.S...TIME SET)
2. S2: Motor switch.
3. S3: Message switch.
4. S4-1, S4-2: Alarm 2 switch in "OFF" position. (OF...OFF, R...RADIO, B...BUZZER)
5. S5-1, S5-2: Alarm 1 switch in "OFF" position. (OF...OFF, R...RADIO, B...BUZZER)
6. S6: Tape alarm switch.
7. S7: Beat proof switch.
8. S8-1~S8-8: Record/Playback switch in "PLAYBACK" position. (P...PLAYBACK, R...RECORD)
9. S9-1, S9-2: Band select switch in "FM STEREO" position. (F.S...FM STEREO, F...FM, A...AM)
10. S10: Ambience switch in "OFF" position. (OF...OFF, ON...ON)
11. S11-1, S11-2: Low boost switch in "OFF" position. (OF...OFF, ON...ON)
12. S12: Sleep switch.
13. S13: Doze switch.
14. S14: Radio on switch.
15. S15: Radio off switch
16. S16: Time set (FAST) switch.
17. S17: Time set (REW) switch.
18. S18: Time set (FWD) switch.
19. S19: Alarm 2 display/Adjustment switch.
20. S20: Alarm 1 display/Adjustment switch.
21. VR1: FM VCO adjustment VR.
22. VR201: Volume control VR.
23. VR301: Clock backup osc control VR.
24. The mark (■) shows test point. e.g. TP1 =test point 1.
25. Important safety notice
    Components identified by ⚠ mark have special characteristics important for safety.
    When replacing any of these components, use only manufacturer's specified parts.

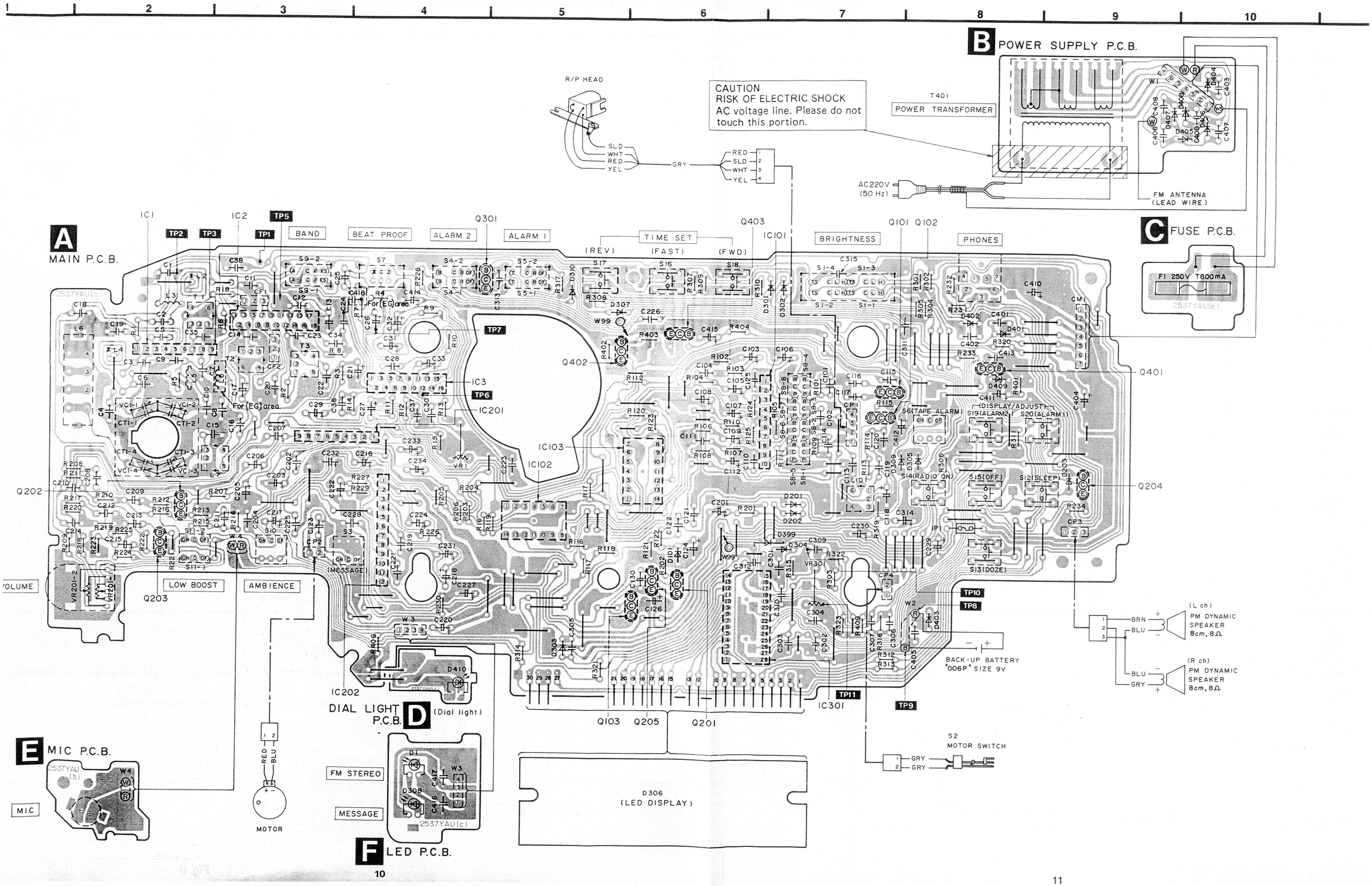
•This schematic diagram may be modified at any time with the development of new technology.




R/P HEAD
SLD
WHT
RED
YEL
GRY
CAUTION
RISK OF ELECTR
AC voltage line.
touch this portic
A
MAIN P.C.B.
IC1
IC2
TP5
TP2
TP3
TP1
BAND
BEAT PROOF
ALARM 2
ALARM 1
Q301
TIME SET
(REV)
(FAST)
(FWD)
Q403
IC101
S9-2
S7
S4-2
S5-2
S17
S16
S18
S9-1
S4-1
S5-1
D310
R317
R308
D307
C226
W99
R403
C415
R404
Q402
R402
C313
C38
C1
L2
R18
C11
CF1
CF2
C12
C24
R4
C414
R228
R9
C18
L3
T1
C2
C19
L6
C5
C35
C14
C23
C34
C31
R10
TP7
R6
R7
C26
C32
T3
R8
C28
C33
IC3
TP6
IC201
L4
C3
C9
T2
C6
R5
L5
C10
L7
C17
C20
R2
C22
R3
C21
C29
C36
R14
C27
R11
R12
C37
C30
R13
C4
C8
C16
C15
C207
VCI-1
VCI-2
CTI-1
CTI-2
CTI-4
CTI-3
VCI-4
VCI-3
For (EG) area.
C206
C202
C232
C216
C233
R15
VR1
C234
C223
IC103
IC102
R208
R211
C208
C210
Q202
R217
R220
C209
R210
C212
R212
R216
C205
R207
R213
C213
R215
C211
R214
C204
C217
C225
C123
C228
C222
R227
R229
R205
R204
R203
R206
C224
R226
R16
R119
R17
R116
R118
C214
R209
R218
R223
C215
R219
R225
R222
R224
S11-2
S11-1
S10
S3
P2
(MESSAGE)
C219
C221
C231
C218
C227
C201
R201
C122
C121
C124
D101
C202
C130
C126
C312
C310
C301
C303
R315
D302
D309
D310
R310
R309
R307
S8-7
S8-8
R102
C103
C106
C104
R103
C105
C125
R104
C108
R112
R120
R123
R124
R105
C107
R106
C109
R110
C111
R107
C110
C112
R108
R111
R121
R122
C120
C128
C129
C127
C131
C132
C133
C134
C135
C136
C137
C138
C139
C140
C141
C142
C143
C144
C145
C146
C147
C148
C149
C150
C151
C152
C153
C154
C155
C156
C157
C158
C159
C160
C161
C162
C163
C164
C165
C166
C167
C168
C169
C170

RC-X250

BOARDS AND WIRING CONNECTION DIAGRAM (Parts list on page 14~16)



MEASUREMENTS AND ADJUSTMENTS

■ ALIGNMENT INSTRUCTIONS

READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT	
1. Set volume control to maximum. 2. Set radio switch to ON or OFF. 3. Set band switch to AM or FM ST. 4. Set ambience switch to OFF.	5. Set power source voltage to 220 V AC. 6. Set low boost switch to OFF. 7. Output of signal generator should be no higher than necessary to obtain an output reading.

■ AM-IF ALIGNMENT

SIGNAL GENERATOR or SWEEP GENERATOR		RADIO DIAL SETTING	INDICATOR (ELECTRONIC VOLTMETER or OSCILLOSCOPE)	ADJUSTMENT	REMARKS
CONNECTIONS	FREQUENCY				
Fashion a loop of several turns of wire and radiate a signal into the loop ant. of receiver.	455 kHz 30% Mod. at 400 Hz	Point of non-interference. (on/about 600 kHz)	Headphones Jack (16~32Ω) (Fabricate the plug as shown in Fig. 2. and then connect the lead wires of the plug to the measuring instrument.)	T2 (AM IFT)	Adjust for maximum output.

■ AM-RF ALIGNMENT

Fashion a loop of several turns of wire and radiate a signal into the loop ant. of receiver.	511 kHz (E) 514±3 kHz (EG)	Tuning capacitor fully closed.	〃	L7 (AM OSC Coil)	Adjust for maximum output.
〃	1,650 kHz (E) 1,639±5 kHz (EG)	Tuning capacitor fully open.	〃	CT1-3 (AM OSC Trimmer)	〃
〃	550 kHz	Tune to signal	〃	(*1) L6 (AM ANT Coil)	Adjust for maximum output. Adjust L6 by moving coil along the ferrite core.
〃	1,500 kHz	〃	〃	CT1-4 (AM ANT Trimmer)	Adjust for maximum output.
(*1) Fix antenna coil with wax after completing alignment.					

■ FM-IF ALIGNMENT

SIGNAL GENERATOR or SWEEP GENERATOR		RADIO DIAL SETTING	INDICATOR (ELECTRONIC VOLTMETER or OSCILLOSCOPE)	ADJUSTMENT	REMARKS
CONNECTIONS	FREQUENCY				
Connect to test point TP3 through ceramic capacitor (0.001 µF). Negative side to test point TP2.	10.7 MHz (SWEEP)	Point of interference (on/about 90 MHz)	Connect vert. amp. scope to test point TP5. Negative side to test point TP7.	T1 (FM 1st)	Adjust for maximum amplitude. (Refer to Fig. 3.)
〃	〃	〃	〃	T3 (FM 2nd)	Adjust for maximum amplitude. (Refer to Fig. 4.)

■ FM-RF ALIGNMENT

Connect to test point TP1 through FM dummy antenna. Negative side to test point TP2.	86.2 MHz (E) 87.37 MHz (EG)	Variable capacitor fully closed.	Headphones Jack (16~32Ω) (Fabricate the plug as shown in Fig. 2. and then connect the lead wires of the plug to the measuring instrument.)	L5 (FM OSC coil)	(*2) Adjust for maximum output.
〃	106 MHz (E) 108.3 MHz (EG)	Variable capacitor fully open.	〃	CT1-1 (FM OSC Trimmer)	〃
〃	106 MHz	Tune to signal	〃	CT1-2 (FM ANT Trimmer)	〃
(*2) Three output responses will be present; proper tuning is the center frequency.					

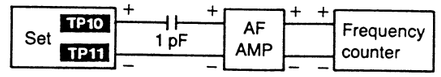
■ SEPARATION ALIGNMENT

FM SIGNAL GENERTOR SOURCE CONNECTION	EQUIPMENT CONNECTION ELECTRONIC COUNTER	ADJUSTMENT	SPECIFICATION	REMARKS
98 MHz, 60 dB (CW) Connect to test point TP1 through FM dummy antenna. Negative side to TP2	TP6 ...(+) TP7 ...(−)	VR1	19 kHz	Adjust VR1, for 19 kHz±50 Hz reading on frequency counter.

■ BATTERY BACK-UP CIRCUIT ALIGNMENT (Note: Disconnect AC power cord)

DC POWER SUPPLY		EQUIPMENT CONNECTION ELECTRONIC COUNTER	ADJUSTMENT	REMARKS
CONNECTIONS	VOLTAGE			
(+) Side..... TP8 (−) Side..... TP9	9 volts	(+) Side ..... TP10 (−) Side TP11	VR301 (Semi-fixed)	•Adjust VR1 for 2400±15 Hz on frequency counter reading. (*3, *4, *5)

*3. Connect 1 pF capacitor to the test point TP10
*4. Amplify its out signal by using an AF Amp.
*5. Measure the frequency adjust if necessary.



■ HEAD AZIMUTH ALIGNMENT

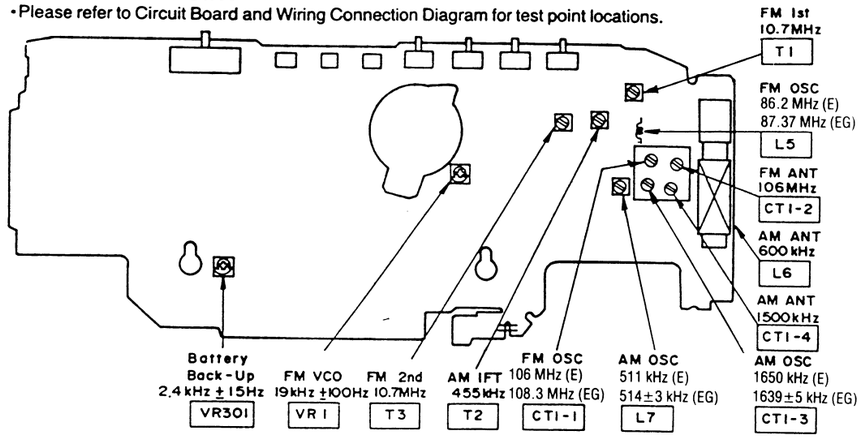
TEST TAPE	EQUIPMENT CONNECTION ELECTRONIC COUNTER	ADJUSTMENT	SPECIFICATION	REMARKS
QZZCFM (8 kHz, −20 dB)	Headphones Jack (16~32Ω) (Fabricate the plug as shown in Fig. 2. and then connect the lead wires of the plug to the measuring instrument.)	Azimuth screw (Shown in Fig. 5)	Maximum output	•Playback mode

■ TAPE SPEED ADJUSTMENT

TEST TAPE	EQUIPMENT CONNECTION ELECTRONIC COUNTER	ADJUSTMENT	SPECIFICATION	REMARKS
QZZCWAT (3 kHz)	Headphones Jack (16~32Ω) (Fabricate the plug as shown in Fig. 2. and then connect the lead wires of the plug to the measuring instrument.)	Motor VR (Shown in Fig. 6)	3000± $^{90}_{60}$ Hz	•Adjust motor VR, for 3000 ± $^{90}_{60}$ Hz reading on frequency counter.

■ ALIGNMENT POINT

•Please refer to Circuit Board and Wiring Connection Diagram for test point locations.



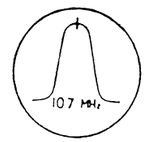


Fig. 3

Fig. 4

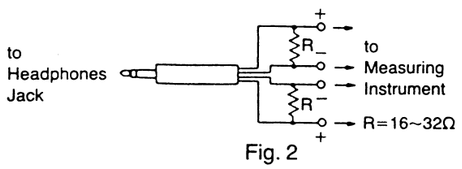


Fig. 2

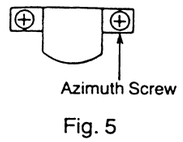


Fig. 5

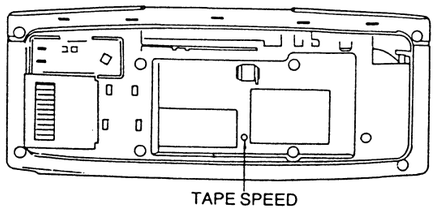


Fig. 6

RC-X250

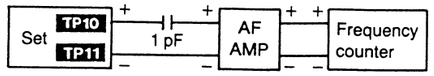
■ SEPARATION ALIGNMENT

FM SIGNAL GENERTOR SOURCE CONNECTION	EQUIPMENT CONNECTION ELECTRONIC COUNTER	ADJUSTMENT	SPECIFICATION	REMARKS
98 MHz, 60 dB (CW) Connect to test point TP1 through FM dummy antenna. Negative side to TP2	TP6 ...(+) TP7 ...(−)	VR1	19 kHz	Adjust VR1, for 19 kHz±50 Hz reading on frequency counter.

■ BATTERY BACK-UP CIRCUIT ALIGNMENT (Note: Disconnect AC power cord)

DC POWER SUPPLY		EQUIPMENT CONNECTION ELECTRONIC COUNTER	ADJUSTMENT	REMARKS
CONNECTIONS	VOLTAGE			
(+) Side..... TP8 (−) Side..... TP9	9 volts	(+) Side ..... TP10 (−) Side TP11	VR301 (Semi-fixed)	•Adjust VR1 for 2400±15 Hz on frequency counter reading. (*3, *4, *5)

*3. Connect 1 pF capacitor to the test point TP10
*4. Amplify its out signal by using an AF Amp.
*5. Measure the frequency adjust if necessary.



■ HEAD AZIMUTH ALIGNMENT

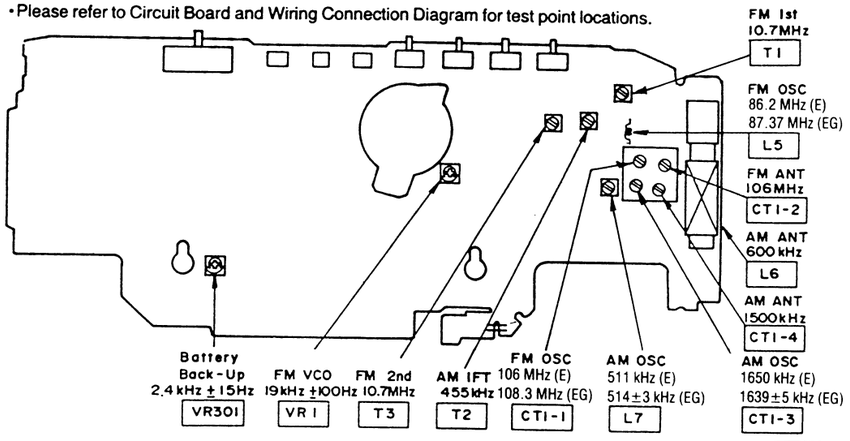
TEST TAPE	EQUIPMENT CONNECTION ELECTRONIC COUNTER	ADJUSTMENT	SPECIFICATION	REMARKS
QZZCFM (8 kHz, −20 dB)	Headphones Jack (16~32Ω) (Fabricate the plug as shown in Fig. 2. and then connect the lead wires of the plug to the measuring instrument.)	Azimuth screw (Shown in Fig. 5)	Maximum output	•Playback mode

■ TAPE SPEED ADJUSTMENT

TEST TAPE	EQUIPMENT CONNECTION ELECTRONIC COUNTER	ADJUSTMENT	SPECIFICATION	REMARKS
QZZCWAT (3 kHz)	Headphones Jack (16~32Ω) (Fabricate the plug as shown in Fig. 2. and then connect the lead wires of the plug to the measuring instrument.)	Motor VR (Shown in Fig. 6)	3000± $^{90}_{60}$ Hz	•Adjust motor VR, for 3000 ± $^{90}_{60}$ Hz reading on frequency counter.

■ ALIGNMENT POINT

•Please refer to Circuit Board and Wiring Connection Diagram for test point locations.



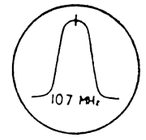


Fig. 3

Fig. 4

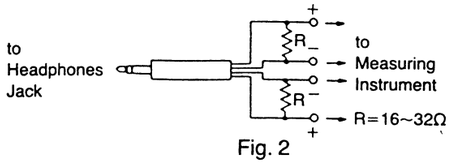


Fig. 2

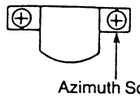


Fig. 5

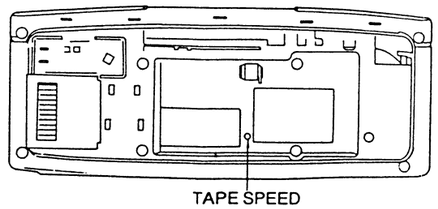


Fig. 6

■ REPLACEMENT PARTS LIST

Notes : • Important safety notice:
Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.
• The parenthesized indications in the Remarks columns specify the areas. (Refer to the cover page for area.)
Parts without these indications can be used for all areas.
• Ⓜ Indicates in Remarks columns parts that are supplied by MESA.

Ref. No.	Part No.	Part Name & Description	Remarks
		INTEGRATED CIRCUITS	
IC1	AN7205	I. C, FRONT END	
IC2	BA4237L	I. C, IF AMP/DET	
IC3	RVIBA1332L	I. C, FM MPX	
IC101	BA3312N	I. C, PRE AMP	
IC102	BU4066B	I. C, SWITCHING	
IC103	BU4066B	I. C, SWITCHING	
IC201	RVIBA6433	I. C, LOW BOOST	
IC202	RVIBA5406	I. C, POWER AMP	
IC301	LM8562	I. C, CLOCK LSI	Ⓜ
		TRANSISTORS	
Q101	2SC1684RTA	TRANSISTOR	
Q102	2SC1684STA	TRANSISTOR	
Q103	2SC2001K1TA	TRANSISTOR	
Q201	2SC1684RTA	TRANSISTOR	
Q202, 203	2SC1684STA	TRANSISTOR	
Q204	2SC1684RTA	TRANSISTOR	
Q205	2SA952L1TA	TRANSISTOR	
Q301	2SA564RTA	TRANSISTOR	
Q401	2SC2001K1TA	TRANSISTOR	
Q402	2SA564RTA	TRANSISTOR	
Q403	2SC1684RTA	TRANSISTOR	
		DIODES	
D1	RVDSLB74VR3H	L. E. D.	
D101	RVDMTZ10BTA	DIODE	
D201-203	RVD1SS133TA	DIODE	
D301-305	RVD1SS133TA	DIODE	
D306	SL204230T	L. E. D. DISPLAY	Ⓜ
D307	RVD1SS133TA	DIODE	
D308	RVDSLB74MG3F	L. E. D.	Ⓜ
D309, 310	RVD1SS133TA	DIODE	
D399	MA700	DIODE	
D401-408	RVD1SR35TR	DIODE	
D409	RVDMTZ6R8BTA	DIODE	
D410	RVDSLV31MT	L. E. D.	Ⓜ
		I. C. PROTECTOR	
IP1	RAHICPN10	I. C. PROTECTOR	

Ref. No.	Part No.	Part Name & Description	Remarks
		VARIABLE RESISTORS	
VR1	EVNK4AA00B14	V. R, FM VCO ADJ	
VR201	EVJVCAF15A54	V. R, MAIN VOLUME	Ⓜ
VR301	EVNK4AA00B25	V. R, BACK-UP ADJ.	
		VARIABLE CAPACITOR	
VC1	RCV4LC2V2K-S	VARIABLE CAPACITOR	(E)
VC1	RCV4LC2V1K-M	VARIABLE CAPACITOR	(EG)
		COILS	
L3	RLQY30S1W-0	COIL	
L5	RL04Y208-E	COIL	Ⓜ (E)
L5	RL04N233-0	COIL	Ⓜ (EG)
L6	RLF2C62-0	COIL	
L7	RL02B105-M	COIL	
L101	RL09B17-T	COIL	
		TRANSFORMERS	
T1	RLI4B153-M	I. F, TRANSFORMER	
T2	RLI2B458-M	I. F, TRANSFORMER	
T3	RLI4B153-M	I. F, TRANSFORMER	
T401	RFKCCX250E-K	POWER TRANSFORMER ASS'Y	Ⓜ⚠
		FILTERS	
CF1	RVF107WDZT	CERAMIC FILTER	
CF2	RVFSFU459B	CERAMIC FILTER	Ⓜ
		FUSE	
F1	XBA2C08TB0	FUSE, 250V TO. 8A	⚠
		SWITCHES	
S1	RSS3D19XA-H	SW, BRIGHTNESS	
S2	RFA91ZA	SW, MOTOR	
S3	ESB6483	SW, MESSAGE	Ⓜ
S4	RSS3B31ZA-H	SW, ALARM 2	Ⓜ
S5	RSS3B31ZA-H	SW, ALARM 1	Ⓜ
S6	ESB6483	SW, TAPE ALARM	Ⓜ
S7	RSS2A56ZA-H	SW, BEAT PROOF	Ⓜ

Ref. No.	Part No.	Part Name & Description	Remarks
S8	RSH2H03UA-A	SW, REC/PLAY	
S9	RSS3B31ZA-H	SW, BAND	M
S10	ESB6483	SW, AMBIENCE	M
S11	ESB6483	SW, LOW BOOST	M
S12	SSG13	SW, SLEEP	
S13	SSG13	SW, DOZE	
S14	SSG13	SW, RADIO ON	
S15	SSG13	SW, OFF	
S16	SSG13	SW, TIME SET(FAST)	

Ref. No.	Part No.	Part Name & Description	Remarks
S17	SSG13	SW, TIME SET(REW)	
S18	SSG13	SW, TIME SET(FWD)	
S19	SSG13	SW, ALARM 2	
S20	SSG13	SW, ALARM 1	
		JACK	
J1	RJJD7S2ZA-C	HEADPHONES JACK	

Notes : * Capacity valuse are in microfarads (uF) unless specified otherwise, P=Pico-farads(pF) F=Farads(F)
* Resistance values are in ohms, unless specified otherwise, 1K=1,000(OHM) , 1M=1,000k(OHM)

Ref. No.	Part No.	Values & Remarks
		RESISTORS
R1	ERDS2TJ220T	1/4W 22
R2	ERDS2TJ332T	1/4W 3.3K
R3	ERDS2TJ470T	1/4W 47
R4	ERDS2TJ332T	1/4W 3.3K
R5	ERDS2TJ470T	1/4W 47
R6	ERDS2TJ101T	1/4W 100
R7	ERDS2TJ221T	1/4W 220
R8	ERDS2TJ153T	1/4W 15K
R9	ERDS2TJ102T	1/4W 1K
R10	ERDS2TJ473T	1/4W 47K
R11	ERDS2TJ821T	1/4W 820
R12	ERDS2TJ102T	1/4W 1K
R13	ERDS2TJ682T	1/4W 6.8K
R14	ERDS2TJ472T	1/4W 4.7K
R15	ERDS2TJ472T	1/4W 4.7K
R16	ERDS2TJ104T	1/4W 100K
R17	ERDS2TJ104T	1/4W 100K
R18	ERDS2TJ101T	1/4W 100
R101	ERDS2TJ123T	1/4W 12K
R102	ERDS2TJ820T	1/4W 82
R103	ERDS2TJ562T	1/4W 5.6K
R104	ERDS2TJ222T	1/4W 2.2K
R105	ERDS2TJ105T	1/4W 1M
R106	ERDS2TJ222T	1/4W 2.2K
R107	ERDS2TJ562T	1/4W 5.6K

Ref. No.	Part No.	Values & Remarks
R108	ERDS2TJ820T	1/4W 82
R109	ERDS2TJ123T	1/4W 12K
R110	ERDS2TJ101T	1/4W 100
R111	ERDS2TJ471T	1/4W 470
R112	ERDS2TJ103T	1/4W 10K
R113	ERDS2TJ223T	1/4W 22K
R114	ERDS2TJ101T	1/4W 100
R115	ERDS2TJ6R8T	1/4W 6.8
R116	ERDS2TJ222T	1/4W 2.2K
R117	ERDS2TJ222T	1/4W 2.2K
R118	ERDS2TJ682T	1/4W 6.8K
R119	ERDS2TJ274T	1/4W 270K
R120	ERDS2TJ274T	1/4W 270K
R121	ERDS2TJ273T	1/4W 27K
R122	ERDS2TJ332T	1/4W 3.3K
R123	ERDS2TJ222T	1/4W 2.2K
R124	ERDS2TJ473T	1/4W 47K
R125	ERDS2TJ473T	1/4W 47K
R201	ERDS2TJ222T	1/4W 2.2K
R202	ERDS2TJ104T	1/4W 100K
R203	ERDS2TJ104T	1/4W 100K
R204	ERDS2TJ102T	1/4W 1K
R205	ERDS2TJ102T	1/4W 1K
R206	ERDS2TJ104T	1/4W 100K
R207	ERDS2TJ221T	1/4W 220
R208	ERDS2TJ223T	1/4W 22K
R209	ERDS2TJ102T	1/4W 1K
R210	ERDS2TJ822T	1/4W 8.2K

Ref. No.	Part No.	Values & Remarks
R211	ERDS2TJ822T	1/4W 8.2K
R212	ERDS2TJ224T	1/4W 220K
R213	ERDS2TJ332T	1/4W 3.3K
R214	ERDS2TJ104T	1/4W 100K
R215	ERDS2TJ472T	1/4W 4.7K
R216	ERDS2TJ472T	1/4W 4.7K
R217	ERDS2TJ223T	1/4W 22K
R218	ERDS2TJ102T	1/4W 1K
R219	ERDS2TJ822T	1/4W 8.2K
R220	ERDS2TJ822T	1/4W 8.2K
R221	ERDS2TJ224T	1/4W 220K
R222	ERDS2TJ332T	1/4W 3.3K
R223	ERDS2TJ104T	1/4W 100K
R224	ERDS2TJ472T	1/4W 4.7K
R225	ERDS2TJ472T	1/4W 4.7K
R226	ERDS2TJ471T	1/4W 470
R227	ERDS2TJ471T	1/4W 470
R228	ERDS2TJ564T	1/4W 560K
R229	ERDS2TJ2R2T	1/4W 2.2
R230	ERDS2TJ2R2T	1/4W 2.2
R231	ERDS2TJ221T	1/4W 220
R232	ERDS2TJ221T	1/4W 220
R233	ERDS2TJ103T	1/4W 10K
R234	ERDS2TJ221T	1/4W 220
R301	ERDS2TJ330T	1/4W 33
R302	ERDS2TJ390T	1/4W 39
R303	ERDS2TJ104T	1/4W 100K
R304	ERDS2TJ222T	1/4W 2.2K

Ref. No.	Part No.	Values & Remarks
R305	ERDS2TJ222T	1/4W 2.2K
R306	ERDS2TJ222T	1/4W 2.2K
R307	ERDS2TJ103T	1/4W 10K
R308	ERDS2TJ103T	1/4W 10K
R309	ERDS2TJ103T	1/4W 10K
R310	ERDS2TJ103T	1/4W 10K
R311	ERDS2TJ222T	1/4W 2.2K
R312	ERDS2TJ680T	1/4W 68
R313	ERDS2TJ680T	1/4W 68
R314	ERDS2TJ470T	1/4W 47
R315	ERDS2TJ334T	1/4W 330K
R316	ERDS2TJ103T	1/4W 10K
R317	ERDS2TJ103T	1/4W 10K
R319	ERDS2TJ331T	1/4W 330
R320	ERDS2TJ222T	1/4W 2.2K
R321	ERDS2TJ470T	1/4W 47
R322	ERDS2TJ472T	1/4W 4.7K
R323	ERDS2TJ473T	1/4W 47K
R401	ERDS2TJ471T	1/4W 470
R402	ERDS2TJ222T	1/4W 2.2K
R403	ERDS2TJ562T	1/4W 5.6K
R404	ERDS2TJ223T	1/4W 22K
R406	ERDS2TJ221T	1/4W 220
R409	ERDS2TJ123T	1/4W 12K
		CAPACITORS
C1	ECCT1H680K	50V 68P
C2	ECCT1H100KC	50V 10P
C3	ECKT1H102MD	50V 1000P
C4	ECCT1H220KC	50V 22P
C5	ECCD1H050CC	50V 5P
C6	ECKT1H102MD	50V 1000P
C7	ECCT1H180KC	50V 18P (E)
C7	ECCT1H270KC	50V 27P (EG)
C8	ECCT1H180KC	50V 18P (E)
C8	ECCD1H220K	50V 22P (EG)
C9	ECKT1H102MD	50V 1000P
C10	ECKT1H103ZF	50V 0.01U
C11	ECFT1C223MDY	16V 0.022U
C12	ECKT1H471KB	50V 470P
C13	ECEA1CU100B	16V 10U
C14	ECKT1H223ZF	50V 0.022U
C15	ECCD1H050CC	50V 5P
C16	ECKT1H223ZF	50V 0.022U
C17	ECEA1CU100B	16V 10U
C18	ECKT1H223ZF	50V 0.022U
C19	ECCT1H100KC	50V 10P
C20	ECFT1C223MDY	16V 0.022U
C21	ECEA0JU101B	6.3V 100U
C22	ECKT1H103ZF	50V 0.01U
C23	RCBS1C103MYY	16V 0.01U

Ref. No.	Part No.	Values & Remarks
C24	RCBS1C472MXY	16V 4700P
C25	ECEA1HU010B	50V 1U
C26	ECEA0JU101B	6.3V 100U
C27	ECEA1HU0R1B	50V 0.1U
C28	RCBS1C103MYY	16V 0.01U
C29	ECEA1HU0R1B	50V 0.1U
C30	ECQP2A102JZT	100V 1000P
C31, 32	ECEA1HUR47B	50V 0.47U
C33	ECEA1HU010B	50V 1U
C34	RCBS0J153MYY	6.3V 0.015U
C35	ECCT1H330KC	50V 33P
C36, 37	ECFT1C223MDY	16V 0.022U
C38	ECCT1H470KC	50V 47P
C101	RCBS1C222MXY	16V 2200P
C102	RCBS1H102KBY	50V 1000P
C103	ECEA1AU470B	10V 47U
C104	RCBS0J223MYY	6.3V 0.022U
C105	ECEA1EU4R7B	25V 4.7U
C106	ECEA1AU330B	10V 33U
C107	ECEA1HU3R3B	50V 3.3U
C108	ECEA0JU221B	6.3V 220U
C109	ECEA1EK4R7B	25V 4.7U
C110	RCBS1H331KBY	50V 330P
C111	RCBS0J223MYY	6.3V 0.022U
C112	ECEA1AU470B	10V 47U
C113	RCBS1H102KBY	50V 1000P
C114	RCBS1C222MXY	16V 2200P
C115	ECFT1E223MDY	25V 0.022U
C116	ECCT1H181K	50V 180P
C117	ECQP2A272JZT	100V 2700P
C118	ECEA0JU101B	6.3V 100U
C119	RCBS0J153MYY	6.3V 0.015U
C120	ECKT1H102MD	50V 1000P
C121	ECFT1C473MDY	16V 0.047U
C122	ECFT1C223MDY	16V 0.022U
C123	ECEA1CU221B	16V 220U
C124	ECEA1HU010B	50V 1U
C125	RCBS1H331KBY	50V 330P
C126	ECEA1CU101B	16V 100U
C130	RCBS0J223NYY	6.3V 0.022U
C201	ECEA1HK010B	50V 1U
C202	RCBS0J153MYY	6.3V 0.015U
C203	ECEA1HU010B	50V 1U
C204	RCBS1C103NYY	16V 0.01U
C205	ECEA0JU101B	6.3V 100U
C206, 207	ECEA1HU010B	50V 1U
C208	ECKT1H102KB	50V 1000P
C209	ECEA1HU010B	50V 1U
C210	ECFT1C683MDY	16V 0.068U
C211	ECEA1HU010B	50V 1U
C212	ECKT1H102KB	50V 1000P
C213	ECEA1HU010B	50V 1U

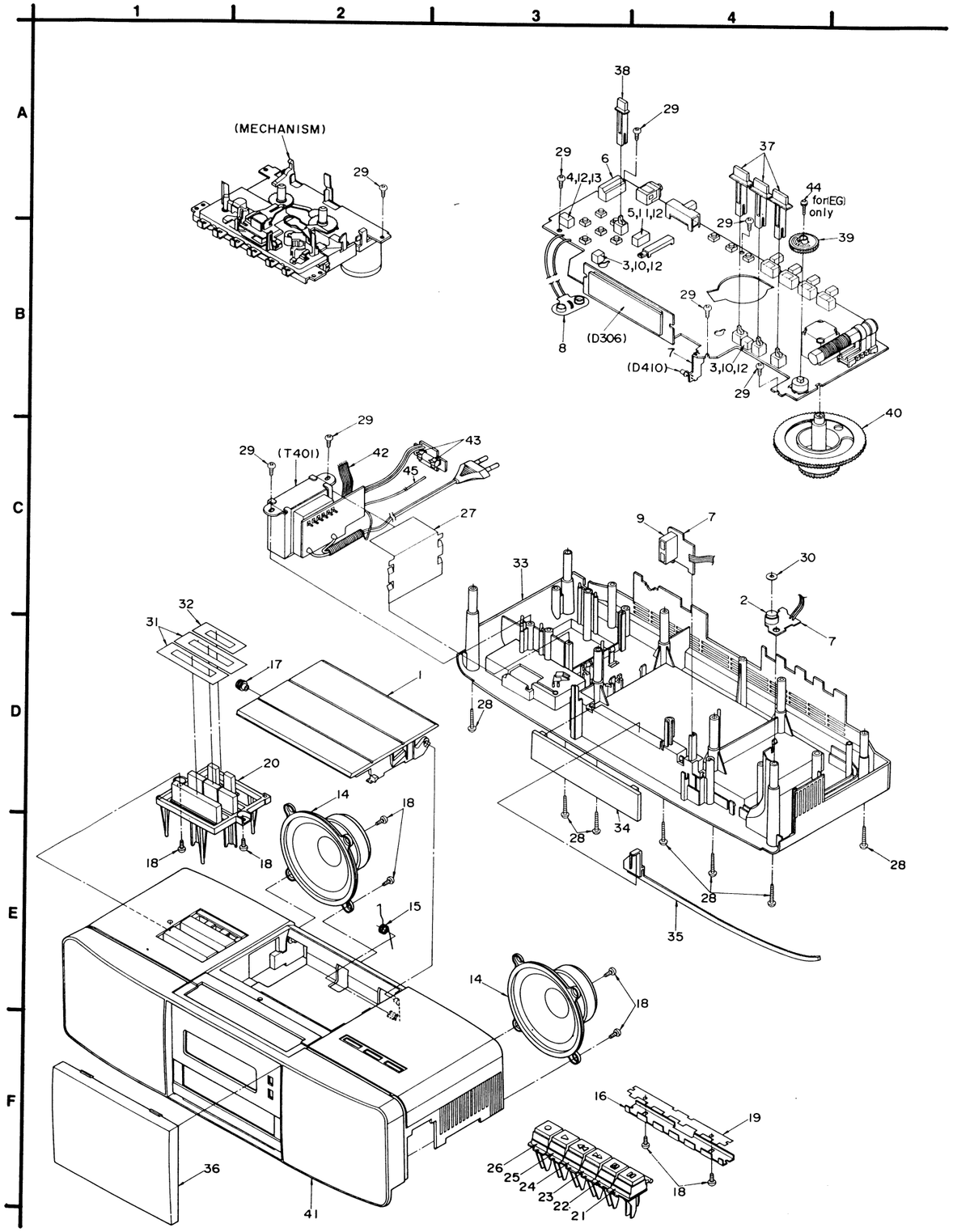
Ref. No.	Part No.	Values & Remarks
C214	ECFT1C683MDY	16V 0.068U
C215-217	ECEA1HU010B	50V 1U
C218	ECEA1CK100B	16V 10U
C219	ECKT1H102MD	50V 1000P
C220	ECEA1CU101B	16V 100U
C221	ECKT1H102MD	50V 1000P
C222	ECEA1CU100B	16V 10U
C223	RCBS1H471KBY	50V 470P
C224	ECEA1AU470B	10V 47U
C225	ECQV1H224JZ3	50V 0.22U
C226	RCBS1C103NYY	16V 0.01U
C227	ECEA0JK470B	6.3V 47U
C228	ECQV1H224JZ3	50V 0.22U
C229, 230	ECEA1AU471B	10V 470U
C231	ECEA1CK100B	16V 10U
C232	ECEA1CU100B	16V 10U
C233, 234	ECEA1HU010B	50V 1U
C301, 302	RCBS1C103NYY	16V 0.01U
C303	RCBS1H102KBY	50V 1000P
C304-307	RCBS1C103NYY	16V 0.01U
C309	ECQP2A152JZT	100V 1500P
C310	RCBS1C103NYY	16V 0.01U
C311	ECFT1C104MDY	16V 0.1U
C312	RCBS1C103NYY	16V 0.01U
C313	RCBS1H102KBY	50V 1000P
C314	ECEA1CU100B	16V 10U
C315	RCBS1C103NYY	16V 0.01U
C401-403	ECKT1H103ZF	50V 0.01U
C404	ECEA1CU471B	16V 470U
C405-409	ECKT1H103ZF	50V 0.01U
C410	ECEA1CU222E	16V 2200U
C411	ECEA1CU100B	16V 10U
C412	ECEA1AU101B	10V 100U
C413	ECFT1C223MDY	16V 0.022U
C414	ECEA1AU101B	10V 100U
C415	ECEA1CU220B	16V 22U
C416, 417	RCBS1C103NYY	16V 0.01U
C418	ECCV1H101K	50V 100P (EG)

RC-X250

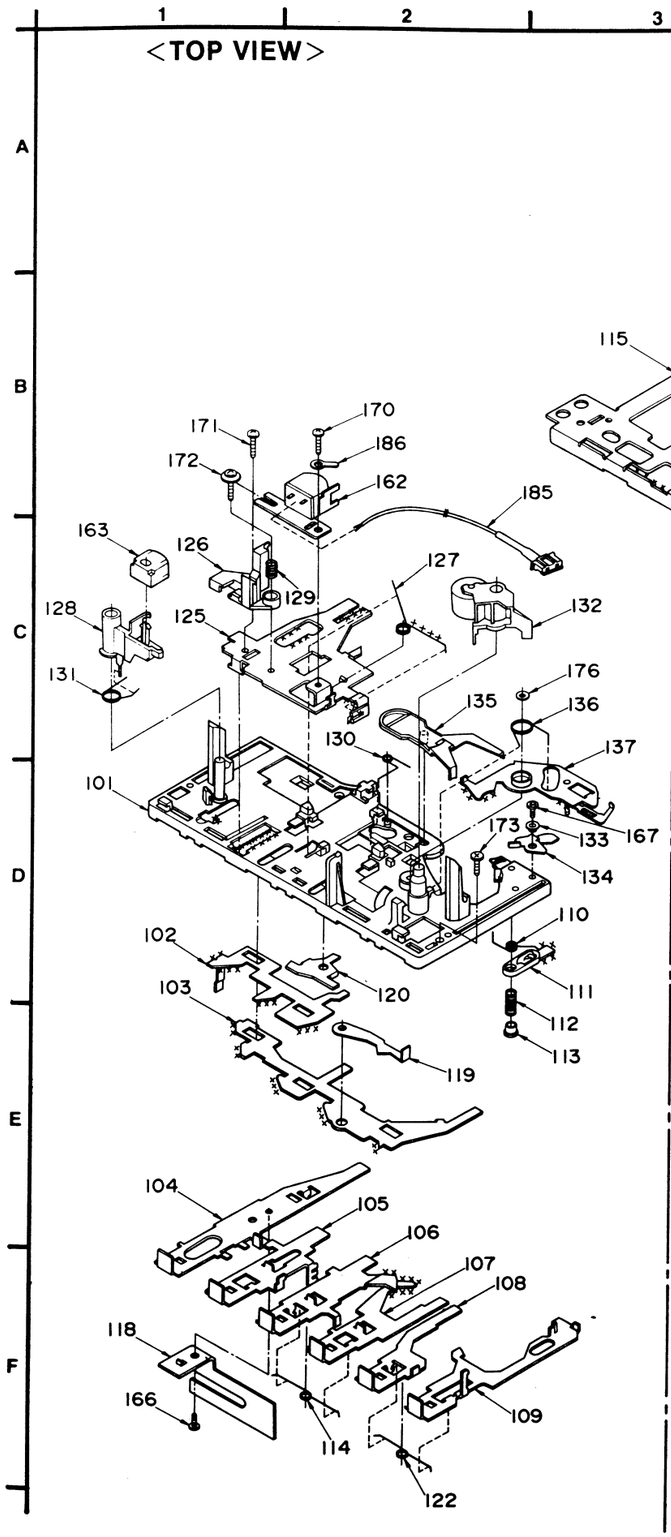
Ref. No.	Part No.	Part Name & Description	Remarks
		CABINET AND CHASSIS	
1	RYQCX250P	CASSETTE LID ASS'Y	M
2	RJM169ZA	MICROPHONE	M
3	RJP2G4YA	CONNECTOR(2P)	
4	RJP3G4YA	CONNECTOR(3P)	
5	RJP4G4YA	CONNECTOR(4P)	
6	SJT30743-V	CONNECTOR(7P)	
7	RUP2537YAU	P.C.B	M
8	RJB5009ZA-1	SNAP	M
9	RMP280ZA-0	LED HOLDER	M
10	RJS2L3ZA-X	SOCKET(2P)	
11	RJS4L3ZA-X	SOCKET(4P)	
12	RJT707ZA-X	CONTACT	
13	RJS3L3ZA-X	SOCKET(3P)	
14	EAS8P143FJ	SPEAKER	M
15	RUW213ZA	SPRING	M
16	RMD2072ZA	ANGLE	M
17	RDG5874ZB	GEAR	
18	XTV3+8G	SCREW	
19	RHR3390ZA	SPACER	M
20	RBC1387ZA-0	ORERATION BUTTON	M
21	RBC1390ZA-0	PAUSE BUTTON	M
22	RBC1391ZA-0	STOP BUTTON	M
23	RBC1392ZA-0	FF BUTTON	M
24	RBC1393ZA-0	REW BUTTON	M
25	RBC1394ZA-0	PLAY BUTTON	M
26	RBC1395ZA-0	REC BUTTON	M
27	RMC1248ZA	SHIELD PLATE	M
28	XTN3+35G	SCREW	
29	XTV3+10G	SCREW	
30	RHG605SZA	RUBBER	M
31	RHS779ZB	SHEET	M
32	RHS780ZB	SHEET	M
33	RFKHCX250E-K	BOTTOM CABINET ASS'Y	M(E)
33	RFKHCX250EGK	BUTTOM CABINET ASS'Y	M(EG)
34	RKD742YA-0	DIAL PANEL	M(E)
34	RKD742WA-0	DIAL PANEL	M(EG)
35	RDP356ZA-0	DIAL POINTER	M
36	RGP1253ZA-0	PANEL	M
37	RBC1388ZA-0	MESSAGE BUTTON	M
38	RBC1389ZA-0	TAPE/ALARM BUTTON	M
39	RBT193ZA-0	VOLUME KNOB	M
40	RBT326ZA-0	TUNING KNOB	M
41	RFKKCX250E-K	UPPER CABINET ASS'Y	M
42	WBB7CB-10K1M	FLAT CABLE	M
43	RJF28ZA	FUSE HOLDER	
44	XYN26+C8	SCREW	(EG)
45	WRZA-27BB	LEAD WIRE	M

Ref. No.	Part No.	Part Name & Description	Remarks
		PACKING MATERIALS	
P1	RPK2831ZA	GIFT BOX	M
P2	RPN9586ZA	PAD	M
P3	RPH656ZA	PROTECTION BAG	M
P4	RPH659ZA	PROTECTION SHEET	M
		ACCESSORIES	
A1	RFKSCX250E-K	INSTRUCTIONS MANUALS	M(E)
A1	RQX5252ZA	INSTRUCTIONS MANUAL	M(EG)
A2	RQAD013	WARRANTY CARD	M
A3	RQX9270XA-3	SERVICE CENTER LIST	M
A4	RQCS0001	F.T.Z. CARD	M(EG)

CABINET PARTS LOCATION



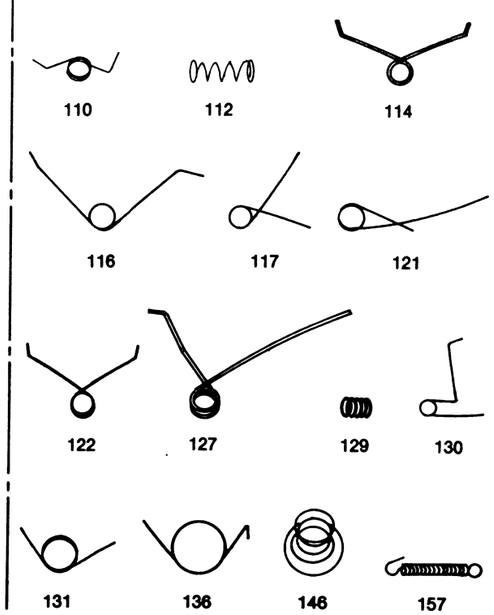
MECHANISM PARTS LOCATION (Parts list on page 21)



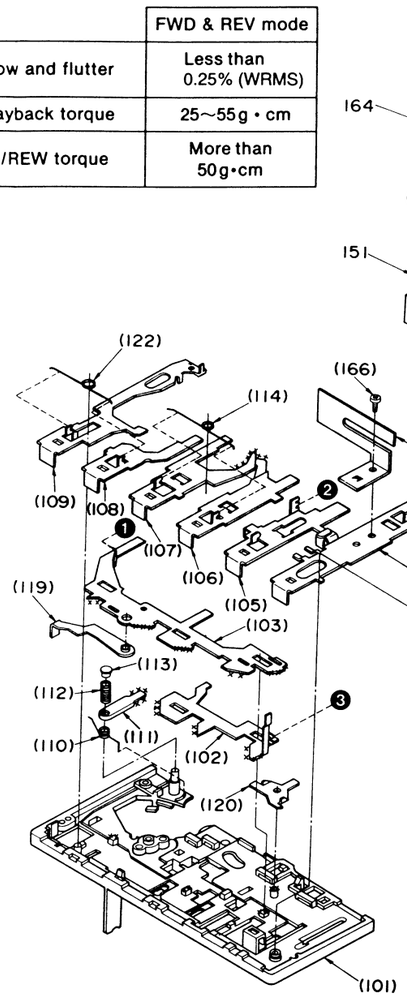
NOTES:
When changing mechanism parts, apply the specified grease to the area marked show in the drawing "Mechanism Parts Location".
- "△△" mark.....Floil G40M (SZZ0L27)
- "× ×" mark.....Floil G488M (SZZ0L28)

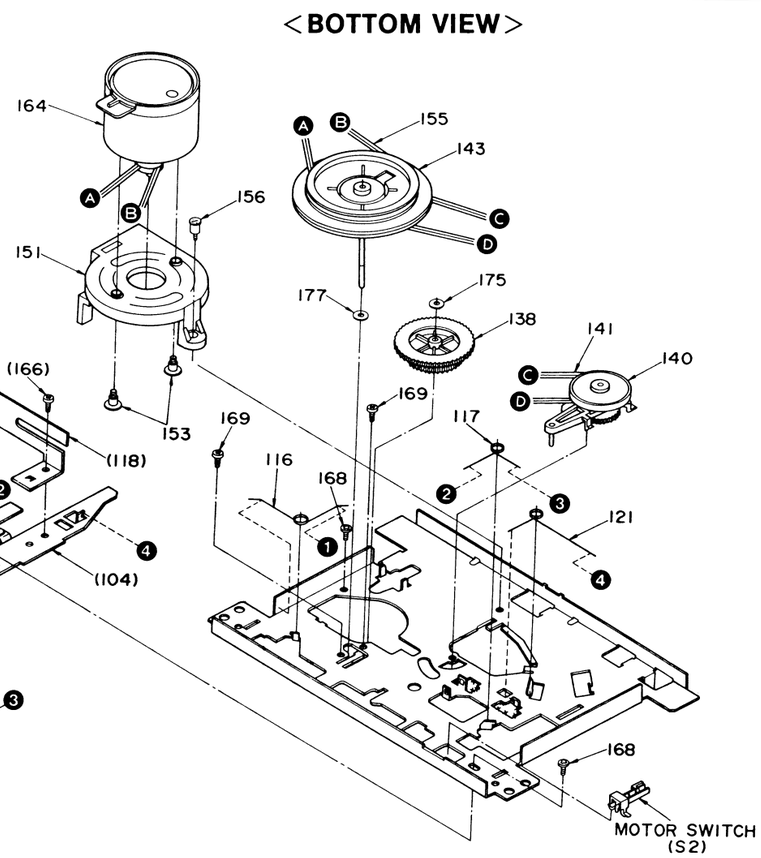
• SPRING ILLUSTRATION

The illustration shows the actual size of the springs so it can be used to check their shapes.
(The illustration shows the springs separated from the mechanism.)

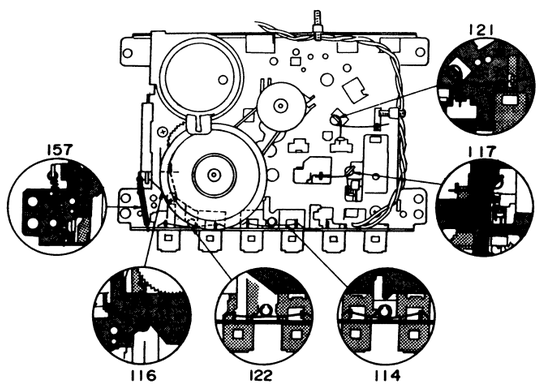


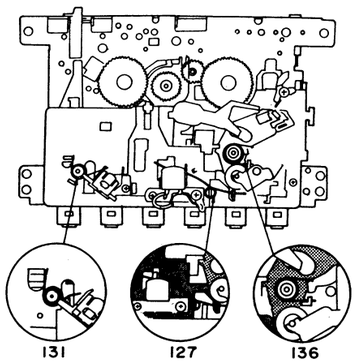
	FWD & REV mode
Wow and flutter	Less than 0.25% (WRMS)
Playback torque	25~55g • cm
FF/REW torque	More than 50g•cm





• SPRING LOCATION





Ref. No.	Part No.	Part Name & Description	Remarks
		MECHANISM	
	RFU154ZA	CHASSIS ASS'Y	
	RFY866ZA	PLATE	
	RFY867ZA	PLATE	
	RFY868ZA	BUTTON LEVER	
	RFY869ZA	BUTTON LEVER	
	RFY870ZA	BUTTON LEVER	
	RFY871ZA	BUTTON LEVER	
	RFY872ZA	BUTTON LEVER	
	RFY873ZA	BUTTON LEVER	
	RFS837ZA	SPRING	
	RFG139ZA	PAUSE CAM	
	RFS813ZA	SPIRNG	
	RFX174ZA	STOPPER	
	RFS814ZA	SPRING	
	RFU155ZA	CHASSIS ASS'Y	
	RFS815ZA	SPRING	
	RFS816ZA	SPRING	
	RFS829ZA	REC. SPRING PLATE	
	RFY844ZA	LEVER	
	RFX175ZA	STOPPER	
	RFS817ZA	SPRING	
	RFS818ZA	SPRING	
	RFU157ZA	HEAD PANEL	
	RFU158ZA	HEAD BASE	
	RFS819ZA	SPRING	
	RFY913ZA	MG ARM	
	RFS447Z	SPRING	
	RFS820ZA	SPRING	
	RFS821ZA	SPRING	
	RFR58ZA	PINCH ROLLER ASS'Y	
	RFY877ZA	COLLAR	
	RFD396ZA	ARM	
	RFY884ZA	LEVER	
	RFS822ZA	SPRING	
	RFY874ZA	PLATE ASS'Y	
	RFG136ZA	CAM GEAR	
	RFQ62ZA	PULLEY	
	RFB99ZA	RF BELT	
	RFF69ZA	FLYWHEEL ASS'Y	
	RFG110ZA	GEAR	
	RFS838ZA	SPRING	
	RFJ89ZA	REEL ASS'Y	Ⓜ
	RFJ90ZA	REEL ASS'Y	Ⓜ
	RFY875ZA	SENSER	
	RFU162ZA	MOTOR BRACKET	
	RFE499ZA	SCREW	
	RFB106ZA	BELT	
	RFE511ZA	SCREW	
	RFS826ZA	SPRING	

Ref. No.	Part No.	Part Name & Description	Remarks
158	RFY889ZA	LEVER	
159	RFS467Z	SPRING	
160	RFY716Z	LEVER	
162	RBR4CG003-M	R/P HEAD	Ⓜ
163	RBR2CY004	E. HEAD	
164	RFM147ZA	MOTOR	Ⓜ
166	RFE472ZA	SCREW	
167	RFE497ZA	SCREW	
168	RFE416ZA	SCREW	
169	RFE496ZA	SCREW	
170	RFE498ZA	SCREW	
171	RFE476ZA	SCREW	
172	RFE230Z	SCREW	
173	RFE252Z	SCREW	
175	RFN83Z	WASHER	
176	RFN214ZA	WASHER	
177	RFE342ZA	WASHER	
185	1JSAX150ZA-1	HEAD WIRE	Ⓜ
186	RFE228Z	LUG TERMINAL	

Printed in Singapore
F890905000 TW